

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

LISTING OF CLAIMS:

Claim 1 (Currently amended). An enzyme having alcohol and aldehyde dehydrogenase activity comprising an isolated polypeptide encoded by a DNA molecule according to SEQ ID NO: 4 or an isolated polypeptide with at least 90% 95% identity to SEQ ID NO: 8.

Claim 2 (Currently amended). An enzyme ~~of claim 1~~ having alcohol and aldehyde dehydrogenase activity, wherein the isolated polypeptide is a chimeric polypeptide including a combination of at least two amino acid sequences each of said sequences being selected from the group consisting of SEQ ID NO: 5~~[[,]]~~ and SEQ ID NO: 8, ~~and amino acid sequences with at least 90% identity to SEQ ID NO: 5 or SEQ ID NO: 8.~~

Claim 3 (Currently amended). An enzyme of claim 1 or 2, wherein the enzyme includes at least two recombinant polypeptides in the form of a homodimer or a heterodimer.

Claims 4-8 (Cancelled).

Claim 9 (Previously presented). An isolated enzyme produced by expression of vector pSSB103R.

Claims 10-19 (Cancelled).

Claim 20 (Currently amended). A process for producing an aldehyde product from a substrate which comprises incubating a reaction mixture containing an enzyme of claim 1 or claim 2 and said substrate wherein said substrate is selected from the group consisting of n-propanol, isopropanol, D-sorbitol and D-mannitol, and recovering the aldehyde product.

Claim 21 (Currently amended). A process for producing a ketone product from a substrate which comprises incubating a reaction mixture containing an enzyme of claim 1 or claim 2 and said substrate wherein said substrate is selected from the group consisting of n-propanol, isopropanol, D-sorbitol and D-mannitol, and recovering the ketone product.

Claim 22 (Currently amended). A process for producing a carboxylic acid product from a substrate which comprises incubating a reaction mixture containing an enzyme of claim 1 or claim 2 and said substrate wherein said substrate is selected from the group consisting of L-sorbose, D-glucose, D-fructose and L-sorbose, and recovering the carboxylic acid product.

Claims 23-24 (Cancelled).

Claim 25 (Currently amended). A process for producing 2-keto-L-gulonic acid which comprises:

(a) incubating a reaction mixture containing a substrate selected from the group consisting of D-sorbitol and L-sorbose, and an enzyme according to claim 1 or claim 2, and

(b) converting the substrate to 2-keto-L-gulonic acid.

Claims 26-27 (Cancelled).

Claim 28 (Original). A process for the production of L-ascorbic acid from 2-keto-L-gulonic acid comprising obtaining 2-keto-L-gulonic acid by a process of claim 25 and transforming the 2-keto-L-gulonic acid into L-ascorbic acid.

Claim 29 (Previously presented). An enzyme according to claim 1 wherein the amino acid sequence is SEQ ID NO: 8.

Claim 30 (Currently amended). An isolated enzyme having alcohol and aldehyde dehydrogenase activity encoded by a recombinant expression vector comprising a DNA sequence of SEQ ID NO: 4 or a DNA sequence which encodes a polypeptide with at least 90% 95% identity to SEQ ID NO: 8, wherein the DNA sequence is functionally linked to one or more genetic control sequences and is capable of expression of an enzyme including at least one recombinant polypeptide having alcohol and aldehyde dehydrogenase activity.

Claim 31 (Currently amended). An isolated enzyme having alcohol and aldehyde dehydrogenase activity encoded by a recombinant expression vector comprising a DNA sequence of SEQ ID NO: 4 or a DNA sequence which encodes a polypeptide with at least 90% 95% identity to SEQ ID NO: 8.

Claim 32 (New). The isolated enzyme according to claim 30, wherein the recombinant expression vector comprises a DNA sequence which encodes a polypeptide of SEQ ID NO: 8.

Claim 33 (New). The isolated enzyme according to claim 31, wherein the recombinant expression vector comprises a DNA sequence which encodes a polypeptide of SEQ ID NO: 8.

Claim 34 (New). An isolated enzyme having alcohol and aldehyde dehydrogenase activity encoded by a recombinant expression vector comprising a DNA which encodes a polypeptide, wherein the polypeptide includes a combination of at least two amino acid sequences each of said sequences being selected from the group consisting of SEQ ID NO: 5 and SEQ ID NO: 8, wherein the DNA sequence is functionally linked to one or more genetic control sequences and is capable of expressing a recombinant polypeptide having alcohol and aldehyde dehydrogenase activity.

Claim 35 (New). An isolated enzyme having alcohol and aldehyde dehydrogenase activity encoded by a recombinant expression vector comprising a DNA sequence which encodes a polypeptide, wherein the polypeptide includes a combination of at least two amino acid sequences each of said sequences being selected from the group consisting of SEQ ID NO: 5 and SEQ ID NO: 8.

Claim 36 (New). The process according to claim 20, wherein the enzyme comprises a polypeptide having SEQ ID NO: 8.

Claim 37 (New). The process according to claim 21, wherein the enzyme comprises a polypeptide having SEQ ID NO: 8.

Claim 38 (New). The process according to claim 22, wherein the enzyme comprises a polypeptide having SEQ ID NO: 8.

Claim 39 (New). The process according to claim 25, wherein the enzyme comprises a polypeptide having SEQ ID NO: 8.